

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 63-093841

(43)Date of publication of application : 25.04.1988

---

(51)Int.Cl. C22C 38/00

H01F 1/04

---

(21)Application number : 61-236886 (71)Applicant : SHIN ETSU CHEM CO LTD

(22)Date of filing : 04.10.1986 (72)Inventor : YOKOYAMA TOSHIICHI  
OHASHI TAKESHI  
TAWARA YOSHIO

---

### (54) RARE-EARTH PERMANENT MAGNET ALLOY

#### (57)Abstract:

**PURPOSE:** To improve saturation magnetization and coercive force at room temp., by constituting by specifying the ratio of a low rare earth-B-Fe alloy with a specific composition to an alloy prepared by rapidly cooling a molten substance of high rare earth-Fe.

**CONSTITUTION:** An alloy I consisting of, by weight, 20W35% R (Y, rare earth elements), 0.5W1.0% B, and the balance M (Fe, a mixture of Fe and Co) is prepared. On the other hand, an alloy II obtained by subjecting a molten substance consisting of 35W80% R and the balance X (Fe, a mixture of Fe and one or more elements among B, Al, Ti, V, Co, Zr, Nb, and Mo) to rapid cooling is prepared. Subsequently, the alloy I and the alloy II are blended in a ratio of 99.9:0.1W80:20, which is crushed and mixed and then is subjected to compacting and sintering to be formed into a permanent magnet. The alloy II provides a magnet having high saturation magnetization since it functions as a sintering auxiliary and causes reduction in oxygen content. Moreover, the alloy II has a coercive force-increasing effect and, when heavy rare earth elements are

selected as the above R, the coercive force-increasing effect can be produced.

---

#### LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision  
of rejection]

[Kind of final disposal of application other  
than the examiner's decision of rejection  
or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's  
decision of rejection]

[Date of requesting appeal against  
examiner's decision of rejection]

[Date of extinction of right]